Torque Converters for Forklift

Forklift Torque Converter - A torque converter in modern usage, is commonly a fluid coupling that is utilized to be able to transfer rotating power from a prime mover, for example an electric motor or an internal combustion engine, to a rotating driven load. Same as a basic fluid coupling, the torque converter takes the place of a mechanical clutch. This allows the load to be separated from the main power source. A torque converter can offer the equivalent of a reduction gear by being able to multiply torque whenever there is a substantial difference between input and output rotational speed.

The fluid coupling type is the most popular type of torque converter utilized in car transmissions. In the 1920's there were pendulum-based torque or also called Constantinesco converter. There are different mechanical designs utilized for constantly variable transmissions that have the ability to multiply torque. Like for example, the Variomatic is one kind that has a belt drive and expanding pulleys.

A fluid coupling is a 2 element drive which is incapable of multiplying torque. A torque converter has an added element which is the stator. This changes the drive's characteristics during occasions of high slippage and produces an increase in torque output.

Within a torque converter, there are a minimum of three rotating elements: the turbine, to drive the load, the impeller which is driven mechanically driven by the prime mover and the stator. The stator is between the impeller and the turbine so that it could change oil flow returning from the turbine to the impeller. Usually, the design of the torque converter dictates that the stator be prevented from rotating under any situation and this is where the word stator begins from. Actually, the stator is mounted on an overrunning clutch. This design stops the stator from counter rotating with respect to the prime mover while still allowing forward rotation.

In the three element design there have been adjustments that have been incorporated sometimes. Where there is higher than normal torque manipulation is considered necessary, alterations to the modifications have proven to be worthy. Most commonly, these modifications have taken the form of various stators and turbines. Each set has been intended to generate differing amounts of torque multiplication. Several examples comprise the Dynaflow that utilizes a five element converter to be able to produce the wide range of torque multiplication considered necessary to propel a heavy vehicle.

Different auto converters consist of a lock-up clutch to reduce heat and in order to improve the cruising power and transmission effectiveness, although it is not strictly part of the torque converter design. The application of the clutch locks the impeller to the turbine. This causes all power transmission to be mechanical that eliminates losses related with fluid drive.